

Claims 1-12 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Jyonouchi et al. (CA Abstract, AN 1994:321921) in view of Anon (Biobusiness Abstract AN 97:19144), Ito et al., U.S. Patent No. 5,937,790 and Krinsky (Medline Abstract, AN 91090021), further in view of the CRC Handbook of Toxicology. While applicant previously pointed out that Ito et al. do not teach the use of antioxidants, specifically, lutein, for the specific purpose of enhancing immune response, the Examiner has taken the position that Ito's general teaching of antioxidants would lead one skilled in the art to expect that they would be useful in immune enhancement. Applicant does not see how Ito's general teaching of the use of antioxidants in a composition designed **to enhance the suppression of increased stress proteins** would lead one skilled in the art to use lutein in the claimed dosage **to enhance immune response**.

In response to applicant's argument that Anon's lutein-containing supplement is for eye health, the Examiner asserts that "any dietary supplement would have reasonably been expected to be associated to the health of the animal as a whole". The Examiner has provided no factual basis for this assertion. There is nothing in Anon which suggests that lutein aids in enhancing the immune response of a dog or cat.

And, as previously pointed out, Krinsky's general teaching that carotenoids may reduce the risk of cancer and provide immunoenhancement in humans does not suggest that the specific administration of lutein would have the same benefits if administered to a dog or cat.

Also as previously pointed out, Jyonouchi et al. teach the effects of administration of lutein to mice, not dogs or cats. Further, Jyonouchi's results are based on immune enhancement in response to specific T-dependent antigens, and Jyonouchi's results suggest that carotenoids may be beneficial for *older* animals. Nothing in Jyonouchi suggests that administration of lutein to cats or dogs would be beneficial.

The CRC Handbook of Toxicology includes a general statement that animals may be used to study the diseases of humans. However, there is no teaching or suggestion in the handbook that the administration of lutein to humans or to one specific animal would serve as a predictable model for all animals.

None of the references, taken alone or in combination, suggest to one skilled in the art that the administration of lutein **in the claimed amounts** to a dog or cat would enhance immune response, increase lutein and immunoglobulin concentration in the blood, or increase lymphocyte cell concentration in the blood as recited in independent claims 1 and 9-11.

Claims 1-12 and 14 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Ito et al. The Examiner maintains that while Ito does not specifically teach the use of lutein, "the ultimate utility (feeding lutein to dog or cat) for the claimed compounds is old and well-known". However, the Examiner has not pointed to one reference which teaches feeding lutein to a dog or cat in the claimed dosage for the purpose of enhancing immune response. The Examiner has relied on general teachings of the references which teach the use of carotenoids in humans or other animals, or the teaching of lutein for eye health, to reach his own conclusion that administration of lutein in the claimed amounts would have been obvious.

Ito et al. do not even teach that an antioxidant is required, rather Ito et al. teach an anti-stress agent such as L-ascorbic acid-2-phosphoric acid which may *optionally* contain an antioxidant to provide enhanced anti-stress effects.

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For all of the above reasons, applicant submits that claims 1-12 and 14 are patentable over the cited references. Early notification of allowable subject matter is respectfully solicited.

Respectfully submitted,

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